Introduction to the National Assessment of Educational Progress (NAEP)

Slide 1 of 31

Title slide: Introduction to the National Assessment of Educational Progress (NAEP)

Slide 2 of 31

This module introduces users to the National Assessment of Educational Progress, or NAEP. It provides users with basic information about the study's design, target population and sample design, assessment components, and reporting.

The module also provides a broad overview of the topics for which data are available for analysis to help users answer the fundamental question: "Are NAEP data for me?" The subsequent NAEP training modules contained within this system will discuss some of these topics in greater detail and address questions about how to effectively use NAEP data for your analytic purposes.

Slide 3 of 31

The National Assessment of Educational Progress is an essential measurement of student achievement in the United States. First administered in 1969, NAEP is the largest continuing and nationally representative assessment of what our nation's students know and can do in various subjects.

Slide 4 of 31

NAEP provides a common measure of how students across the nation are performing. NAEP is a congressionally-mandated project administered by the National Center for Education Statistics, or NCES, within the U.S. Department of Education. NAEP results are released as **The Nation's Report Card**, which can be accessed by clicking the corresponding underlined screen text.

Slide 5 of 31

NAEP is a survey designed to produce national, state, and large urban school district results, not a testing program for individual students or schools. NAEP does not provide results at the school or student level and only to a handful of districts.

Slide 6 of 31

The NAEP Organizational Model can be seen here. NAEP is conducted by NCES within the Institute of Education Sciences at the U.S. Department of Education. The National Assessment Governing Board, appointed by the Secretary of Education but independent of the Department of Education, sets policy for NAEP and is responsible for developing the framework and test specifications that serve as the blueprint for the assessment. NAEP assessment operations are carried out by the Assessment Division within NCES with assistance from contractors including Educational Testing Service (or ETS), Westat, Pearson, and Fulcrum IT. More information about these contractors and their role NAEP assessment operations can be accessed by clicking the corresponding underlined screen text.

Slide 7 of 31

The National Assessment Governing Board, or NAGB, provides policy oversight and guidance for NAEP. The Governing Board is an independent, bipartisan organization that oversees NAEP. NAGB board members are appointed by the Secretary of Education.

More information regarding the NAGB can be accessed, by clicking the corresponding underlined screen text.

Slide 8 of 31

Assessments are conducted periodically in 12 subject areas, with mathematics, reading, science, and writing assessed most frequently. NAEP also assesses Civics, Economics, Foreign Language, Geography, U.S. History, Arts, Technology and Engineering Literacy (TEL), and World History. NAEP is moving to Digitally-Based Assessments using tablets and scenario based tasks.

Slide 9 of 31

NAEP is a survey program with two major assessment components: Main and Long-Term Trend NAEP. We'll discuss the Main NAEP first, then the Long-Term Trend NAEP.

Slide 10 of 31

Main NAEP is administered to samples of students in grades 4, 8, and 12 in public and private schools. The Main NAEP assessment component yields national, state, and district (or Trial Urban District Assessments, TUDA) results.

From these assessments, national, state, and TUDA results are reported at least once every two years, in odd years, in reading and mathematics. Every four years, in even years, results are reported for science and writing. Other NAEP subjects are assessed on a voluntary basis at regularly scheduled intervals to provide national results in U.S. history, geography, civics, economics, and the arts.

The subject-area frameworks for the NAEP assessments are developed by the NAGB.

Slide 11 of 31

National NAEP reports statistical information about student performance and factors related to educational performance for the nation and for specific student groups in the population. It includes students drawn from both public and private schools and reports results for student achievement at grades 4, 8, and 12.

Slide 12 of 31

State level assessment reporting for public schools began in 1990 and includes the 50 states and the District of Columbia, Department of Defense, Bureau of Indian Education, and Puerto Rico (for mathematics only).

The state assessment allows states to monitor their own progress over time in the selected subject areas and compare themselves to other states and the nation.

Slide 13 of 31

The Trial Urban District Assessment, or TUDA, program began in 2002. TUDA allows participating districts to judge performance of their students, and enables comparisons to be made between other urban districts, states, and the nation.

In 2002, six urban districts participated in the NAEP reading and writing assessments. In 2009, 18 districts participated in mathematics, reading, and science. Twenty-one districts participated in 2011 and are participating in 2013.

Slide 14 of 31

Now, let's turn our attention to the Long-Term Trend NAEP assessment component.

Slide 15 of 31

NAEP long-term trend, or LTT, assessments are designed to provide information on the changes in the performance of the nation's 9-, 13-, and 17-year-old students. Since the LTT assessments are administered at the national level only, there are no state level results.

Because the long-term trend program uses substantially the same assessments decade after decade, it has measured students' performance in mathematics and reading since 1971. The most recent LTT assessments were administered in 2012. The next administration will take place in 2020.

The framework for LTT remains stable to maintain trend comparisons.

Slide 16 of 31

It is not necessary to assess every student in the country to understand what our nation's students know and can do in various subjects. NAEP relies on assessing a nationally representative sample of students across the nation. The students who participate represent the diversity of the student body of the United States.

Slide 17 of 31

For the state assessments, approximately 100 schools and 3,000 students are selected per state, subject, and grade. For the TUDA assessments, approximately 50 schools and 1,600 students were selected per district, subject, and grade. For the national assessments approximately 600 schools and 12,000 students are selected per subject and grade. In the last NAEP administration, approximately 1 million students were assessed in January through March 2015 in around 19,000 schools.

Slide 18 of 31

Each student selected for participation in NAEP takes only a small subset of the total item pool. The selected students participate in a 50-minute assessment in one subject area. More information about the NAEP assessment can be accessed by clicking the underlined screen text **Testing**. It is important to note that no individual student scores or school scores are reported. The assessment design utilized maximizes the content coverage, while minimizing burden on students and schools.

Slide 19 of 31

You probably see NAEP in headlines like these all the time. And I think you'd be hard-pressed to find a story about the state of education in the U.S. that doesn't mention NAEP data.

Slide 20 of 31

NAEP results are generally reported in two ways: scale scores and achievement levels. Both scale score student performance and achievement level student performance are disaggregated by subgroups and geography across NAEP reporting mechanisms.

Slide 21 of 31

NAEP scale scores represent the average performance of students on a numeric scale. There are separate scales, on an interval level of measurement, for achievement in each subject. For example, average mathematics performance is reported on a scale of 0 to 500, while average science performance is reported on a scale of 0 to 300. Scale scores provide a mechanism that allows for the consistent reporting of achievement over time on a common scale. It is important to remember that scale scores cannot be compared across content areas, subject areas, or grades. For example, mathematics scale scores cannot be compared to reading scale scores.

Slide 22 of 31

NAEP achievement levels are a set of standards that define what students should know and be able to do in each subject area assessed. NAEP achievement levels provide a mechanism that allows for behavioral reporting of achievement. It is important to note that NAEP achievement levels are not related to state achievement levels. NAEP results cannot be compared to assessments conducted by states.

Slide 23 of 31

NAEP achievement levels are established by the NAGB and the results are reported across all content areas as the percentages of students performing at or above the Basic, Proficient, and Advanced levels. The basic level denotes partial mastery of prerequisite knowledge and skills that are fundamental for proficient work at each grade. The proficient level represents solid academic performance for each grade assessed. Students reaching this level have demonstrated competency over challenging subject matter. The advanced level represents superior performance.

Slide 24 of 31

NAEP scale scores and achievement levels are disaggregated by: subgroups (race/ethnicity, gender, students with disabilities (SD), and English language learners (ELL); socio-economic status (SES), that is National School Lunch Program (NSLP) eligibility and parental education level; geography (national, state and regional comparisons and school location); and contextual information (school, teacher, and student background questionnaire data).

Slide 25 of 31

NAEP estimates have a degree of variability due to sampling. This variability should be accounted for when making inferences from NAEP data. Every NAEP statistic has a related standard error, that is an indicator of the variability of the statistic. More detailed information regarding the NAEP sample design, weights, variance, and missing data can be accessed by clicking the underlined screen text, **sampling**.

Slide 26 of 31

Because of the standard error associated with every NAEP statistic, differences in scale scores may not be statistically significant. For example, here we see a 2003 scale score of 251 with a standard error of 4.0, and a 2013 scale score of 257 with a standard error of 2.1. At first glance, without taking into account the variability of the statistic as indicated by the standard error, one might assume that the performance of students in 2013 on this particular NAEP assessment was greater than that in 2003. However, this is not the case. When both scores, and their standard errors are used to construct 95 percent confidence intervals, it is apparent that there is no statistically significant change in performance from 2003 to 2013.

Slide 27 of 31

NAEP provides a credible independent standard that educators, legislators, education writers, policy makers, and the general public can use to gauge the effectiveness of education policies. NAEP data are also used by research scientists who study education policy issues and the development of student skills and abilities.

Slide 28 of 31

Report cards, posted on Nationsreportcard.gov, provide brief popular summaries with graphics of main national, state and urban district results. Snapshots provide brief web-based reports of results for individual states or districts participating in NAEP.

Slide 29 of 31

NAEP also offers useful data tools to assist researchers with their analyses. NAEP data tools, which include the NAEP Data Explorer (NDE), questions tool, item maps, test maps, test yourself, state comparisons, state profiles, and district profiles enable users to answer their questions regarding what the nation's students know and can do. Each of these data tools is discussed in detail within the module titled, **Getting Started with NAEP Data** which can be accessed by clicking the underlined screen text, **Data Tools**.

Slide 30 of 31

This module has introduced users to NAEP and described the study's design, target population and sample design, assessment components, and reporting. This module also provided a broad overview of the topics for which data are available for analysis.

Slide 31 of 31

Important resources that have been provided throughout the module are summarized in this slide along with the module's objectives for your reference.